Amendments

In the Claims:

Please amend the claims as follows:

92. (Three Times Amended) An automated, real-time electronic inventory system, comprising:

(A) a plurality of radio frequency identification (RFID) tags, wherein each tag is assigned a first permanent identification number and a second permanent identification number, wherein said RFID tags are configured to receive and transmit signals; and

(B) a tag reader having means for transmitting a signal to said RFID tags and means for resolving contention between multiple RFID tags that respond to said signal;

(C) wherein said RFID tags are configured to receive said signal from said reader, evaluate said first or second permanent identification numbers in response to receiving said signal, and reply to said signal if appropriate.

101. (Three Times Amended) An automated, real-time electronic inventory system, comprising:

(A) a plurality of radio frequency identification (RFID) tags, wherein each tag is assigned a plurality of identification numbers, wherein said RFID tags are configured to receive and transmit signals; and

(B) a tag reader having means for transmitting a signal to said RFID tags and means for resolving contention between multiple RFID tags that respond to said signal;

(C) wherein said RFID tags are configured to receive said signal from said tag reader, evaluate one or more of said plurality of identification numbers, and reply to said signal if appropriate.

104. (Twice Amended) An automated, real-time electronic inventory system, comprising a plurality of radio frequency identification (RFID) tags and a tag reader that performs multiple reads of said RFID tags to avoid time slot contention, wherein said tag is identified by a plurality of bits, wherein said tag responds to said tag reader with a first plurality of said plurality of bits during a first read and a second plurality of said plurality of bits during a second read.

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107. (Twice Amended) A radio frequency identification tag, wherein each tag is assigned a first permanent identification number and a second permanent identification number, wherein the tag is interrogated by a tag reader having means for transmitting a first clock signal and for incrementing a first reader count in response to the first clock signal, means for storing the first reader count when more than one tag responds to the first clock signal that corresponds to the first reader count, and means for transmitting the stored first reader count followed by a second clock signal, the tag comprising:

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means for incrementing a first tag count in response to the first clock signal, and

means for transmitting the first permanent identification number assigned to the tag when the permanent identification number of the tag corresponds to said first tag count,

means for incrementing a second tag count in response to receiving the second clock signal, and

means for transmitting the second permanent identification number assigned to the tag when the second permanent identification number of the tag corresponds to said second tag count.

108. (Twice Amended) A method for conducting an inventory of tags, wherein each tag is assigned a first permanent identification number and a second permanent identification number, the method comprising the steps of:

at a tag reader, transmitting a first clock signal, waiting for a reply from a plurality of the tags, and transmitting a first reader count followed by a second clock signal; and

at each tag,

incrementing a first tag count in response to said first clock signal and

transmitting the first permanent identification number assigned to said tag when the first permanent identification number of said tag corresponds to said first tag count;

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at each tag that responds to said transmitted first reader count,

incrementing a second tag count in response to said second clock signal, and

transmitting the second permanent identification number assigned to said tag when the second permanent identification number of said tag corresponds to said second tag count.

112. (Twice Amended) The electronic inventory system of claim 92, wherein at least one of said plurality of RFID tags is manufactured on a flexible substrate.

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113. (Twice Amended) The electronic inventory system of claim 101, wherein at least one of said plurality of RFID tags is manufactured on a flexible substrate.

Please add the following new claims:

120. (New) The system of claim 104, wherein said tag reader is configured to transmit a first value corresponding to said first plurality of said plurality of bits of a tag to be located and a second value corresponding to said second plurality of said plurality of bits of a tag to be located.

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121. (New) The system of claim 120, wherein said tag transmits, in response to receiving said first value, said first plurality of said plurality of bits assigned to said tag when said first plurality of said plurality of bits corresponds to said first value, wherein said tag further transmits, in response to receiving said second value, said second plurality of said plurality of bits assigned to said tag when said second plurality of said plurality of bits corresponds to said second value.

122. (New) The system of claim 121, wherein said tag is further identified by a third plurality of said plurality of bits, wherein said tag reader is further configured to transmit a third value corresponding to said third plurality of said plurality of bits of a

tag to be located, wherein said tag transmits, in response to receiving said third value, said third plurality of said plurality of bits corresponding to said third value.

123. (New) The system of claim 121, wherein said tag includes a sensor.

124. (New) The system of claim 104, wherein at least one of said RFID tags is attached to a piece of merchandise.

125. (New) The system of claim 124, wherein at least one of said RFID tags is manufactured on a flexible substrate.

F6 cont'd

126. (New) The system of claim 104, wherein said tag reader is further configured to transmit a wake-up signal.

127. (New) The system of claim 104, wherein at least one of said RFID tags is manufactured on a flexible substrate.

128. (New) The system of claim 104, wherein said RFID tags are configured to receive and transmit signals.

129. (New) The system of claim 104, wherein said RFID tags are configured to receive a signal from said tag reader, evaluate said signal relative to said first plurality of said plurality of bits or second plurality of said plurality of bits, and reply to said signal when appropriate.

130. (New) The system of claim 129, wherein at least one of said plurality of RFID tags has a sensor; and means for transmitting the contents of said sensor.

131. (New) The system of claim 129, wherein said tag reader emits a series of clock signals, each clock signal defines a time slot, and said signal is a clock signal.

132. (New) The system of claim 131, wherein each RFID tag begins a count based on said clock signal and when said count is equivalent to said first plurality of said plurality of bits, transmits its reply to said tag reader

133. (New) The system of claim 131, wherein said tag reader polls all tags whose reply conflicted with another tag.

134. (New) The system of claim 104, wherein said tag reader can initiate an immediate read of said RFID tags, a specific RFID tag read, or a timed broadcast read of said RFID tags.

F6 cont'd

135. (New) A radio frequency identification (RFID) tag that is interrogated by a tag reader, comprising:

means for receiving a first signal from the tag reader, the tag reader performs multiple reads of the RFID tag to avoid time slot contention, wherein the tag is identified by a plurality of bits, and

means for transmitting a second signal to the tag reader in response to receiving said first signal from the tag reader, wherein said second signal includes a first plurality of said plurality of bits during a first read and a second plurality of said plurality of bits during a second read from the tag reader.

136. (New) The RFID tag of claim 135, wherein the tag responds to the tag reader within a time slot defined by said first or second plurality of said plurality of bits.

137. (New) The RFID tag of claim 135, wherein the tag further includes a sensor.

138. (New) The RFID tag of claim 135, wherein the tag is attached to a piece of merchandise.

139. (New) The RFID tag of claim 138, wherein the tag is manufactured on a flexible substrate.

140. (New) The RFID tag of claim 135, wherein the tag is configured to evaluate said signal relative to said first plurality of said plurality of bits or second plurality of said plurality of bits, and reply to said signal when appropriate.

141. (New) The RFID tag of claim 140, wherein the tag further comprising:

means for incrementing a first tag count in response to receiving a first clock signal,

means for transmitting said first plurality of said plurality of bits assigned to the tag when said first plurality of said plurality of bits of the tag corresponds to said first tag count,

means for incrementing a second tag count in response to receiving said second clock signal, and

means for transmitting said second plurality of said plurality of bits assigned to the tag when said second plurality of said plurality of bits of the tag corresponds to said second tag count.

142. (New) The RFID tag of claim 135, wherein said first signal comprises a clock signal.

143. (New) A method for conducting an electronic inventory of radio frequency identification tags, the method comprising the steps of:

(A) transmitting a first signal to a plurality of radio frequency identification (RFID) tags, wherein said tag is identified by a plurality of bits, wherein said RFID tags are configured to receive and transmit signals;

(B) receiving a reply from said plurality of RFID tags, said tags responding to said first signal based on the value of a first plurality of said plurality of bits; and

(C) resolving contention between multiple RFID tags if there is a conflict between at least two of said RFID tags subsequent to said RFID tags responding to said first signal, including transmitting a second signal to said plurality of RFID tags.

144. (New) The method of claim 143, wherein at least one of said RFID tags includes a sensor, the method further including receiving sensor data from said at least one of said RFID tags.

145. (New) The method of claim 143, further comprising receiving a reply to said second signal from at least one RFID tag based on the value of a second plurality of said plurality of bits.

146. (New) The method of claim 143, further comprising transmitting a first value corresponding to said first plurality of said plurality of bits of a tag to be located and a second value corresponding to said second plurality of said plurality of bits of a tag to be located.

147. (New) The method of claim 146, further comprising transmitting, in response to receiving said first value, said first plurality of said plurality of bits assigned to said tag when said first plurality of said plurality of bits corresponds to said first value, wherein said tag further transmits, in response to receiving said second value, said second plurality of said plurality of bits assigned to said tag when the second plurality of said plurality of bits corresponds to said second value.

148. (New) The method of claim 147, wherein said tag is further identified by a third plurality of said plurality of bits, wherein the method further comprising transmitting a third value corresponding to said third plurality of said plurality of bits of a tag to be located, wherein said tag transmits, in response to receiving said third value, said third plurality of said plurality of bits corresponding to said third value.

149. (New) The method of claim 148, further comprising attaching at least one of said RFID tags to a piece of merchandise.

150. (New) The method of claim 149, further comprising manufacturing at least one of said RFID tags on a flexible substrate.

151. (New) The method of claim 143, further comprising transmitting a wake-up signal.

152. (New) The method of claim 143, wherein said first signal and second signal are clock signals, wherein each clock signal defines a time slot.

F6 cont'd

153. (New) The method of claim 152, wherein each RFID tag begins a count based on receiving a clock signal, wherein an RFID tag transmits its reply to said tag reader when said count is equivalent to said first plurality of said plurality of bits.

154. (New) The method of claim 148, further comprising initiating an immediate read of said RFID tags, a specific RFID tag read, or a timed broadcast read of said RFID tags.